US006419546B1

(12) **United States Patent**
**Akashi et al.**

(10) **Patent No.: US 6,419,546 B1**
(45) **Date of Patent: Jul. 16, 2002**

(54) **DOLL MOVABLE STRUCTURE FOR LOIN AND GROIN**

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(73) Assignees: **Medicom Toy Corporation**; **Time House Corporation**, both of Tokyo (JP)

( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/405,107**

(22) Filed: **Sep. 27, 1999**

(30) **Foreign Application Priority Data**

Sep. 25, 1998 (JP) ..... 10-288919

(51) **Int. Cl.**[7] ..... **A63H 3/46**
(52) **U.S. Cl.** ..... **446/376**; 446/381
(58) **Field of Search** ..... 446/97, 228, 330, 446/354, 355, 376, 377, 381, 390

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*Primary Examiner*—D. Neal Muir
(74) *Attorney, Agent, or Firm*—Ronald E. Greigg

(57) **ABSTRACT**

A movable structure for loin and groin of toy figures is composed of a coxa member formed as a partition wall and attached to a lower portion of a body **2** of a movable jointed doll; right and left huckle bone members are installed pivotably with the coxa member, and right and left groin members are installed into installed spaces respectively formed at each of the huckle bone members. Further, the groin members have protruded fitted portions which are inserted into depressed fitted portions formed at gluteu maximus corresponding portions of the huckle bone members, respectively. Moreover, the groin members includes first joint segments that rotate respectively in relation to each of the huckle bone members such that right and left leg members open in a horizontal direction respectively and second joint segments for connecting legs provided with the first joint segments in a face contact state through projected axles respectively and combine integrally with each other, the second joint segments rotate in relation to the first joint segments such that the leg members are lifted in a fore direction, respectively. Therefore, a movable structure for loin and groin of toy figures allows the loin and groin to move naturally in the same manner as a human being when the leg members are opened in the front-back direction and/or the left-right direction respectively.

**5 Claims, 13 Drawing Sheets**

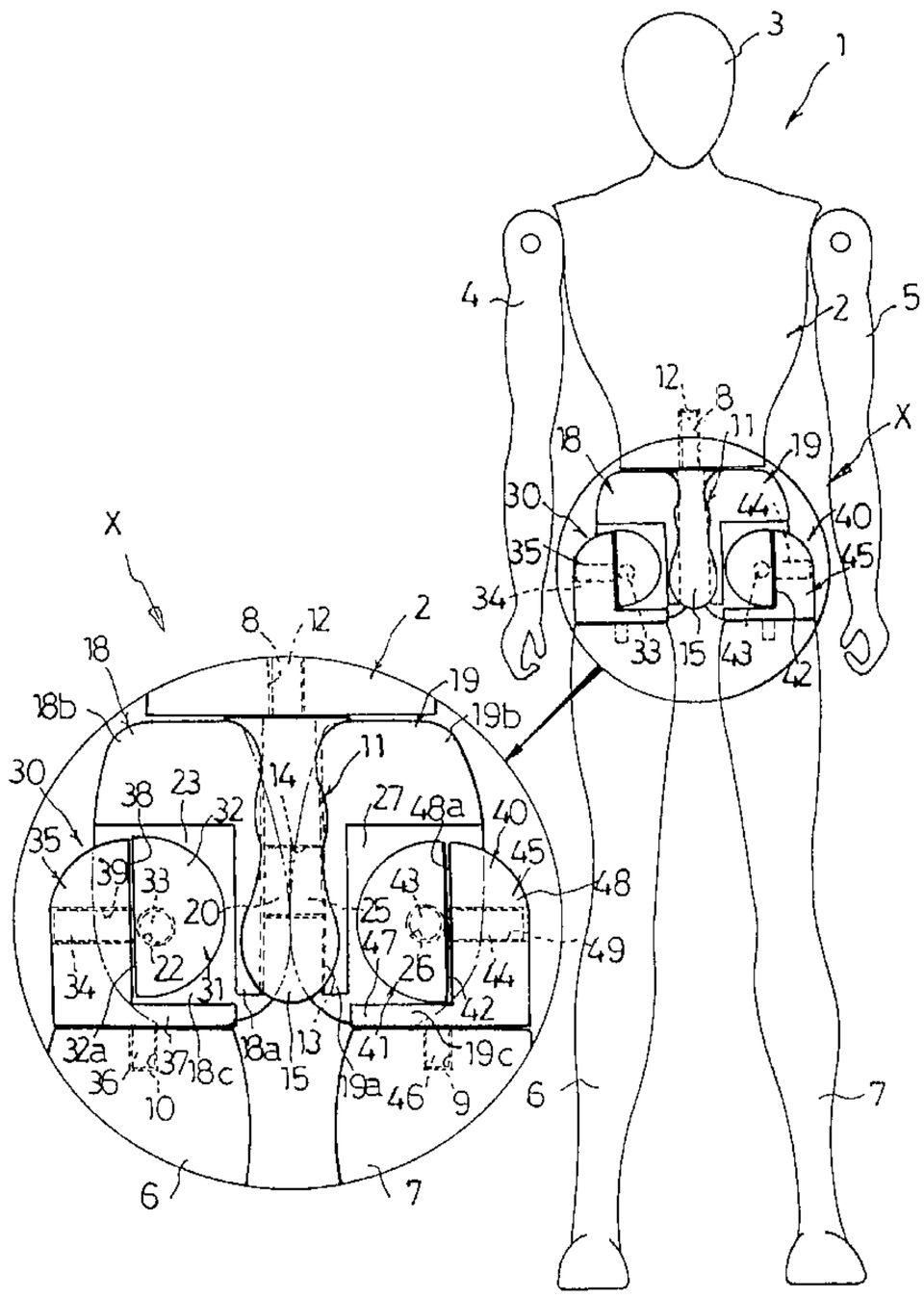
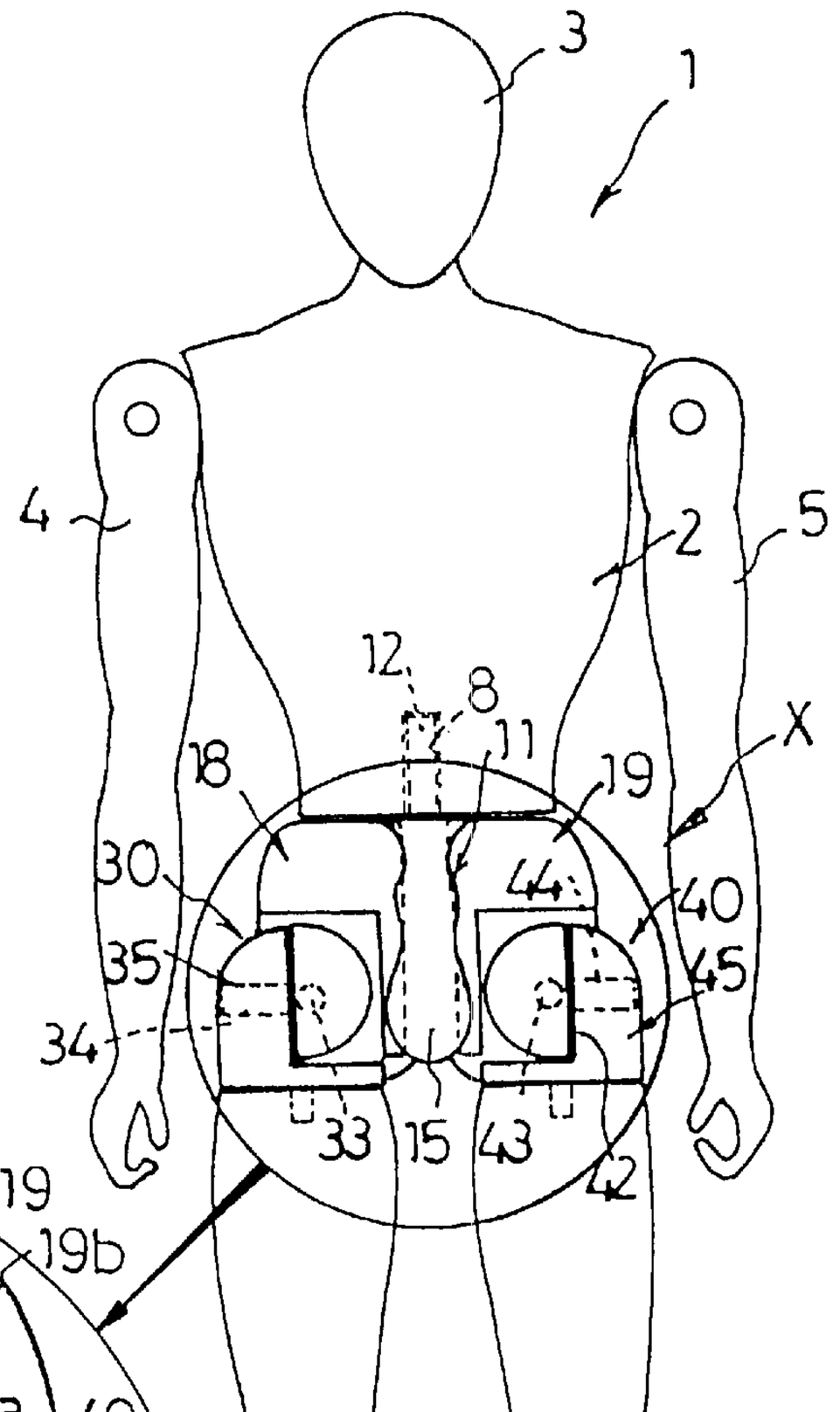


FIG. 1a


3
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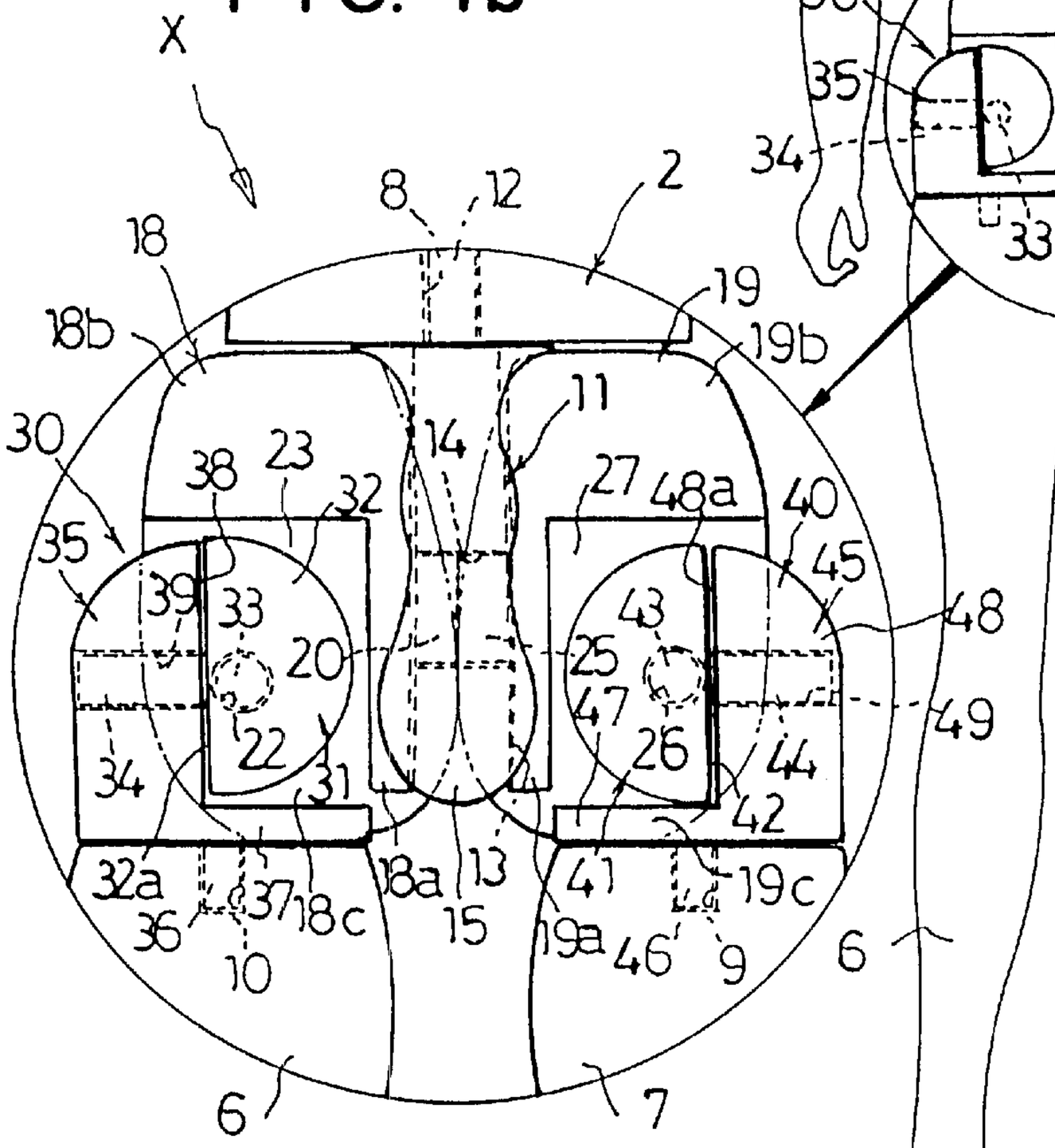
43
42

FIG. 1b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19b
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33
43
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20
25
49
47
22
26
44
34
31
42
32a
18a
13
41
19c
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37
18c
15
19a
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9
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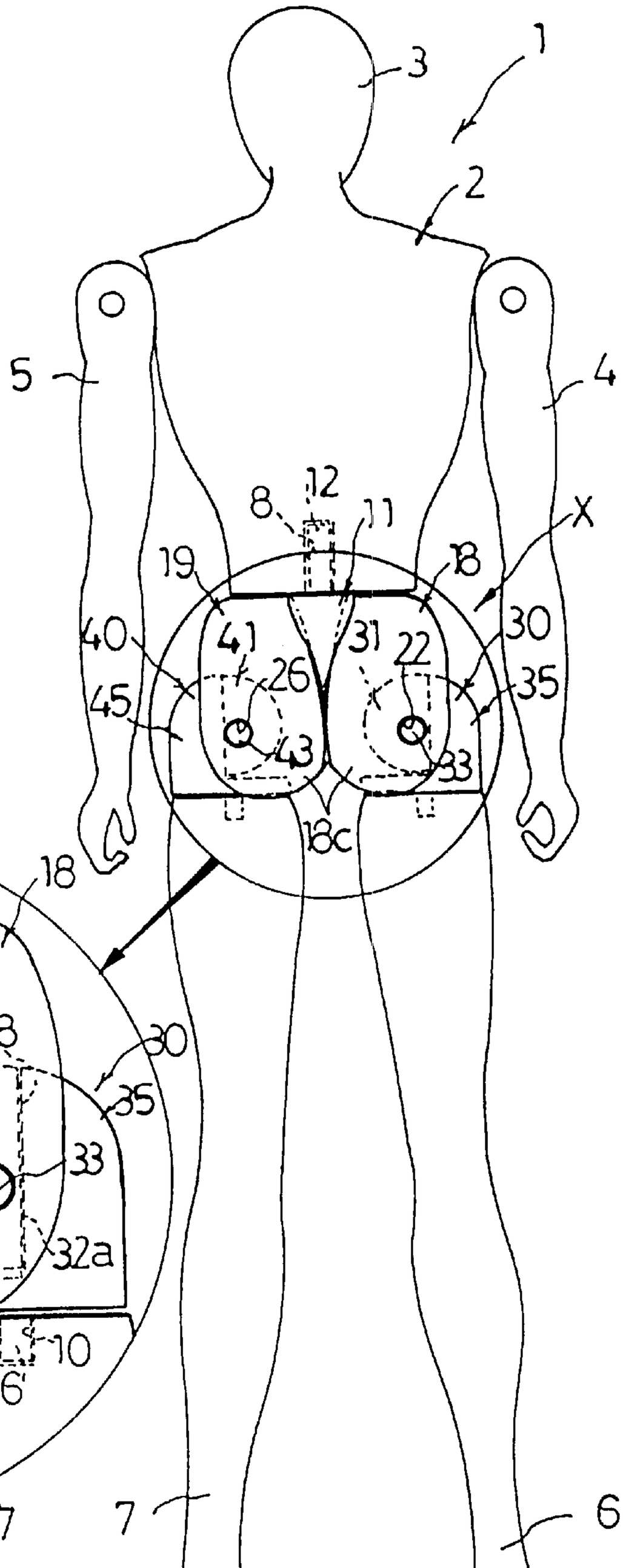
FIG. 2a


1
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3
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11
12
18
18c
19
22
26
30
31
32
32a
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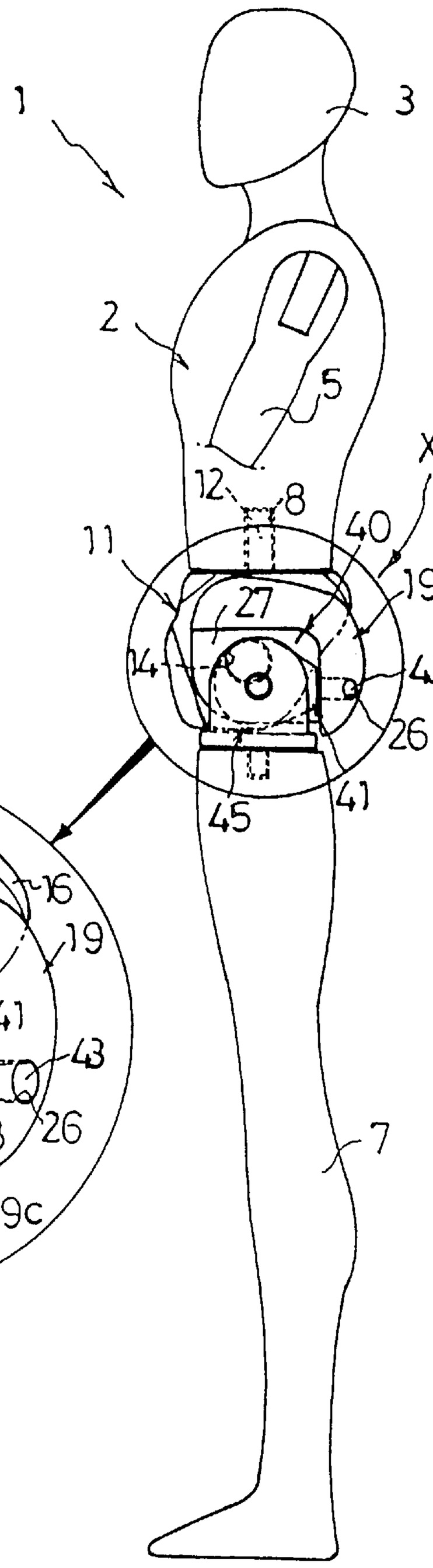
48
48a
X

FIG. 2b

FIG. 3a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X
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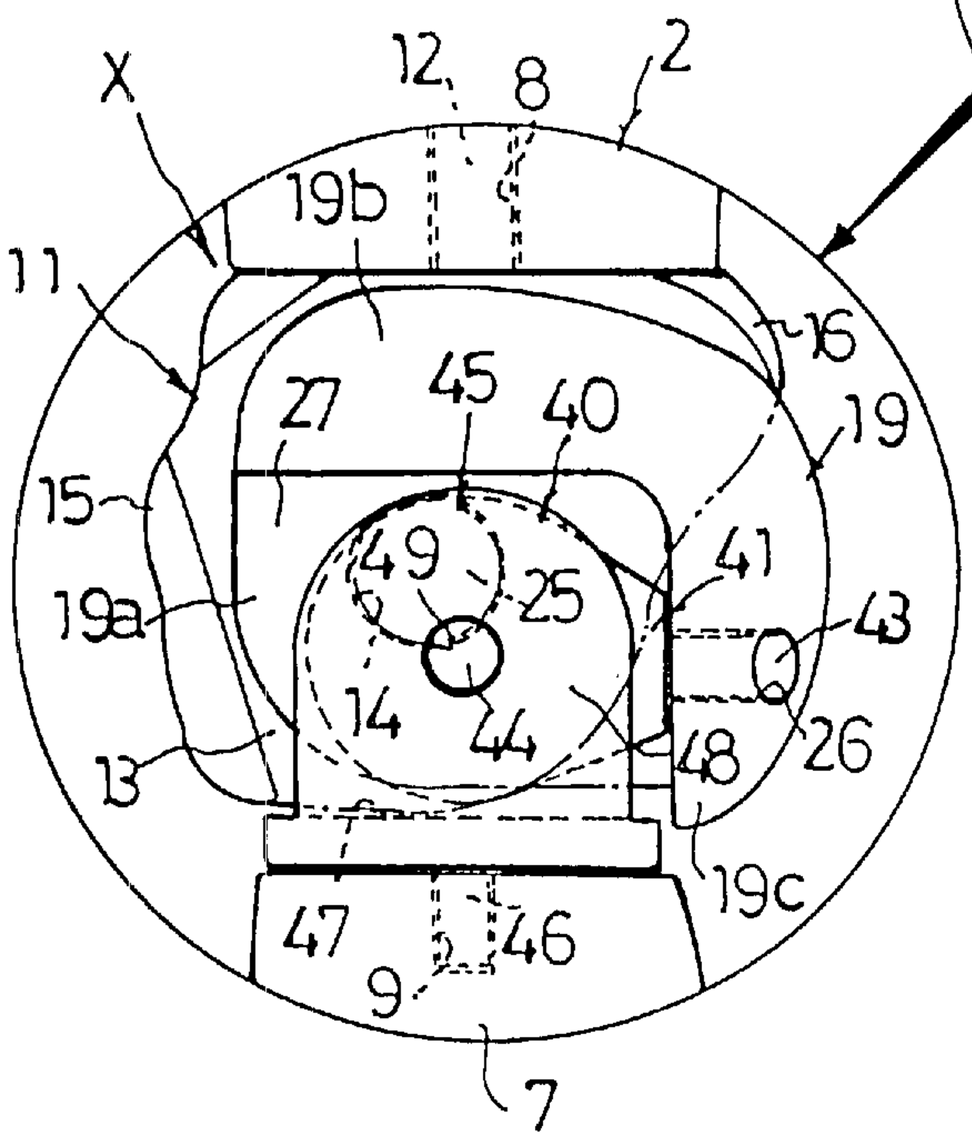
FIG. 3b


X
12
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2
19b
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16
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45
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19
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25
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19a
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19c
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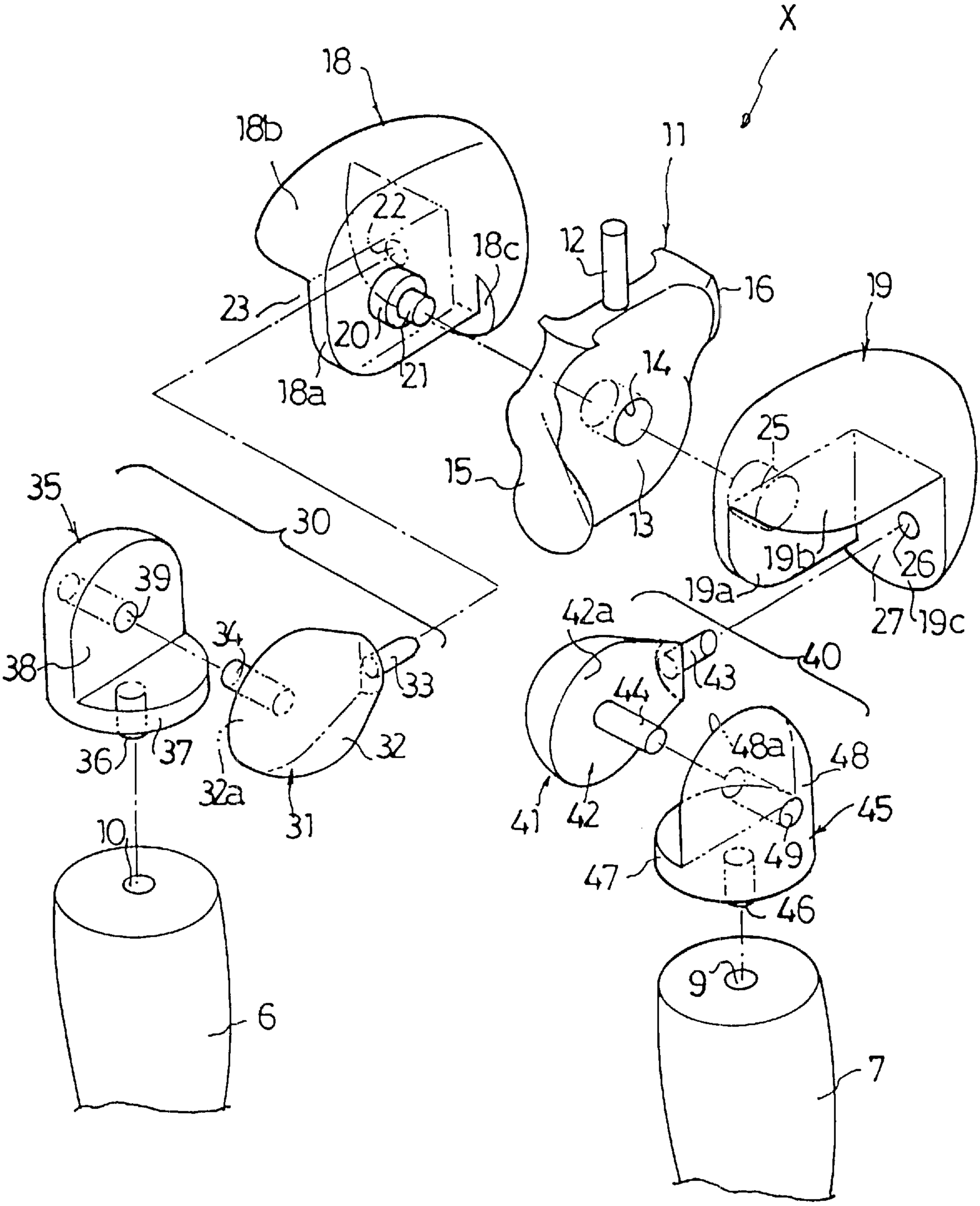
FIG. 4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18
18b
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22
18c
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23
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18a
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26
39
19a
27
19c
42a
34
40
38
43
33
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48a
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36
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32a
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42
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FIG. 5

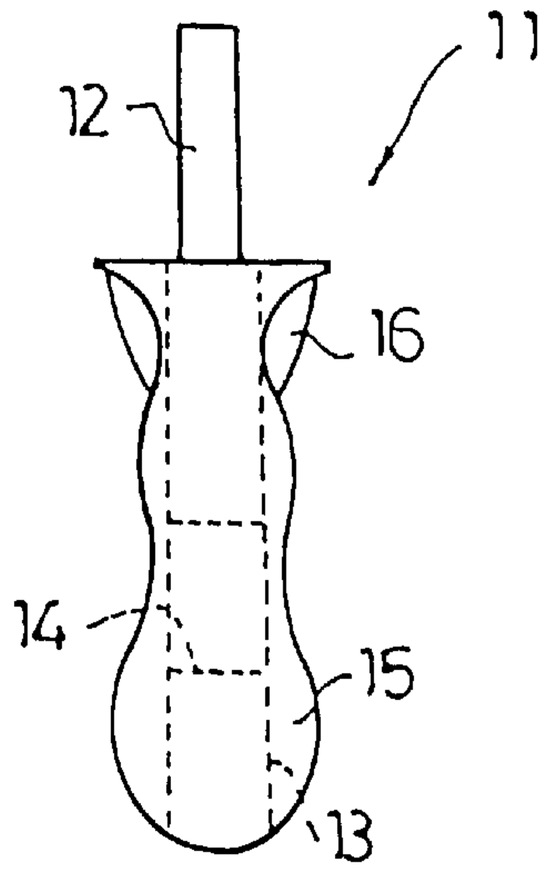



FIG. 6

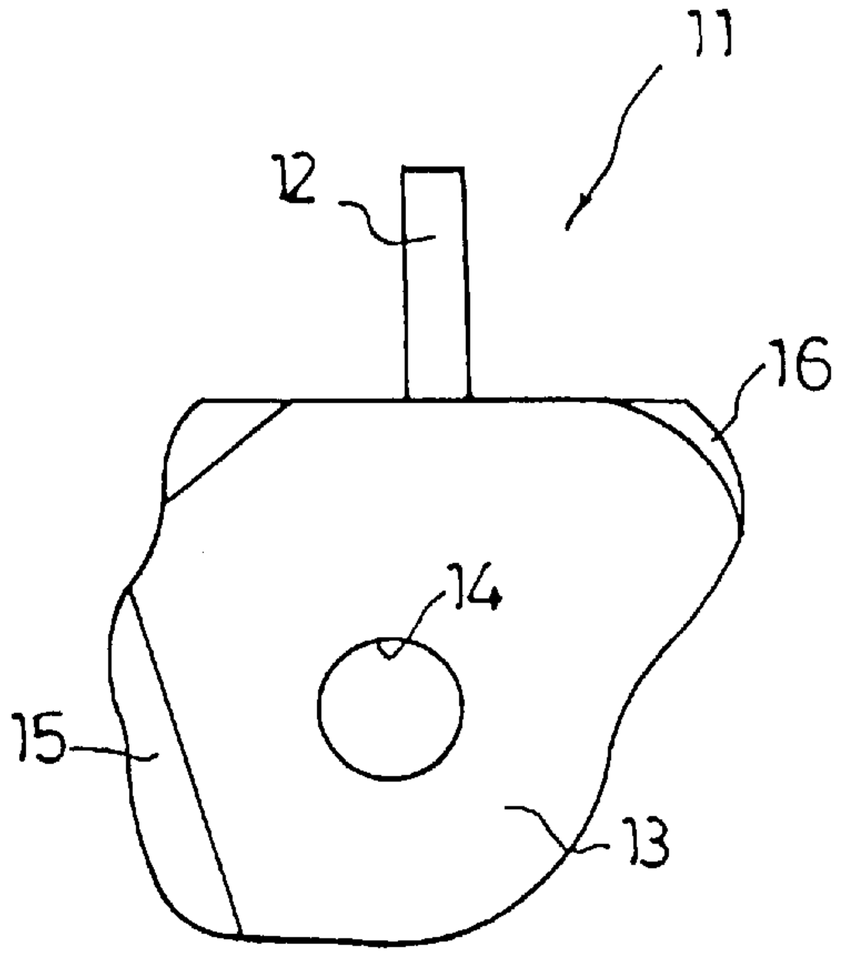


FIG. 7

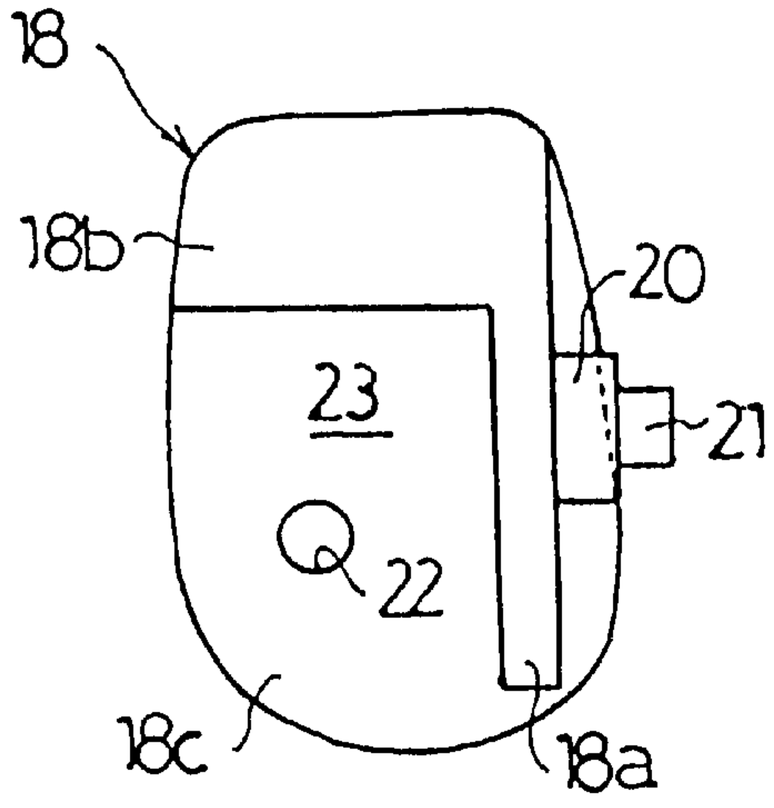



FIG. 8

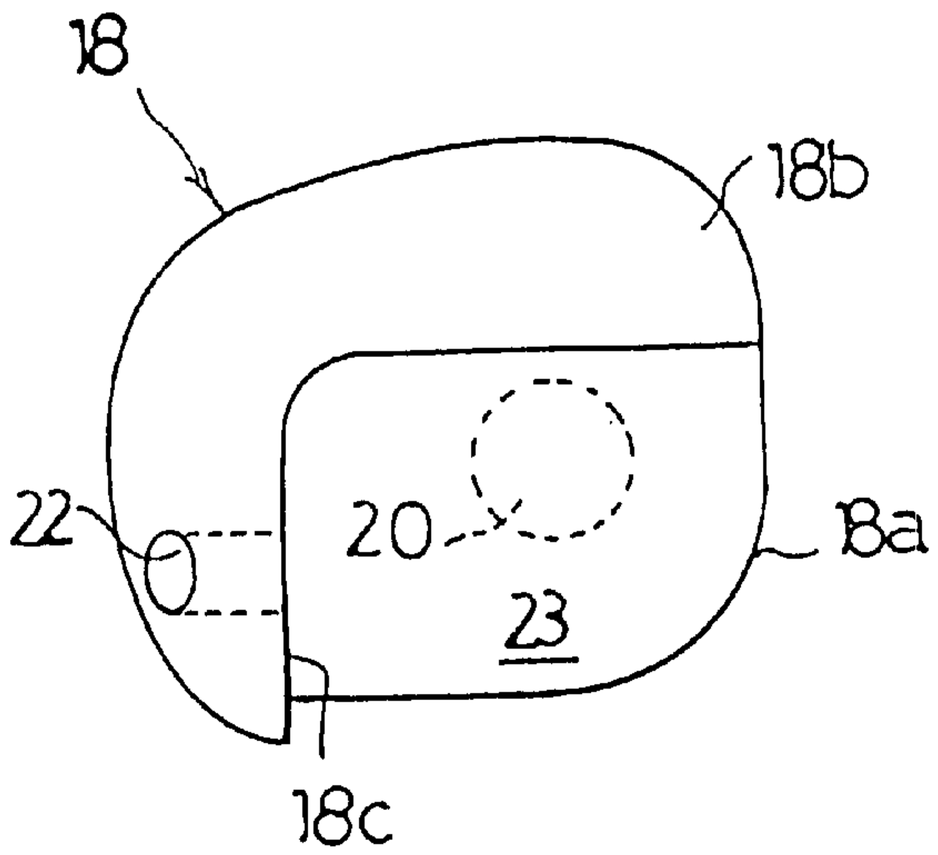


FIG. 9

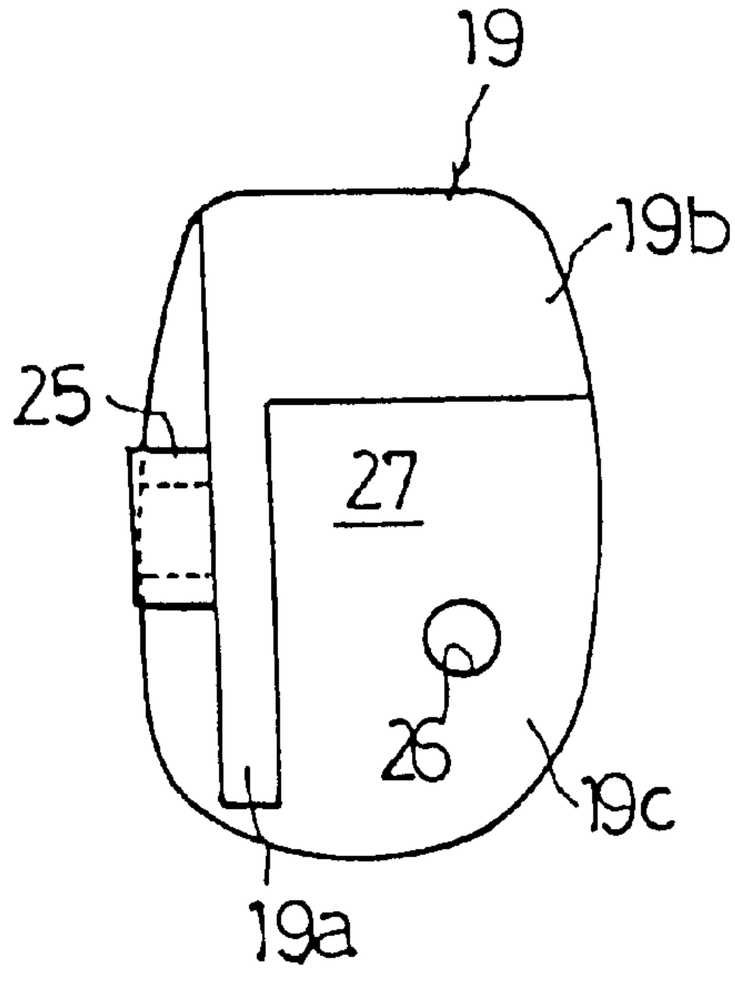



FIG. 10

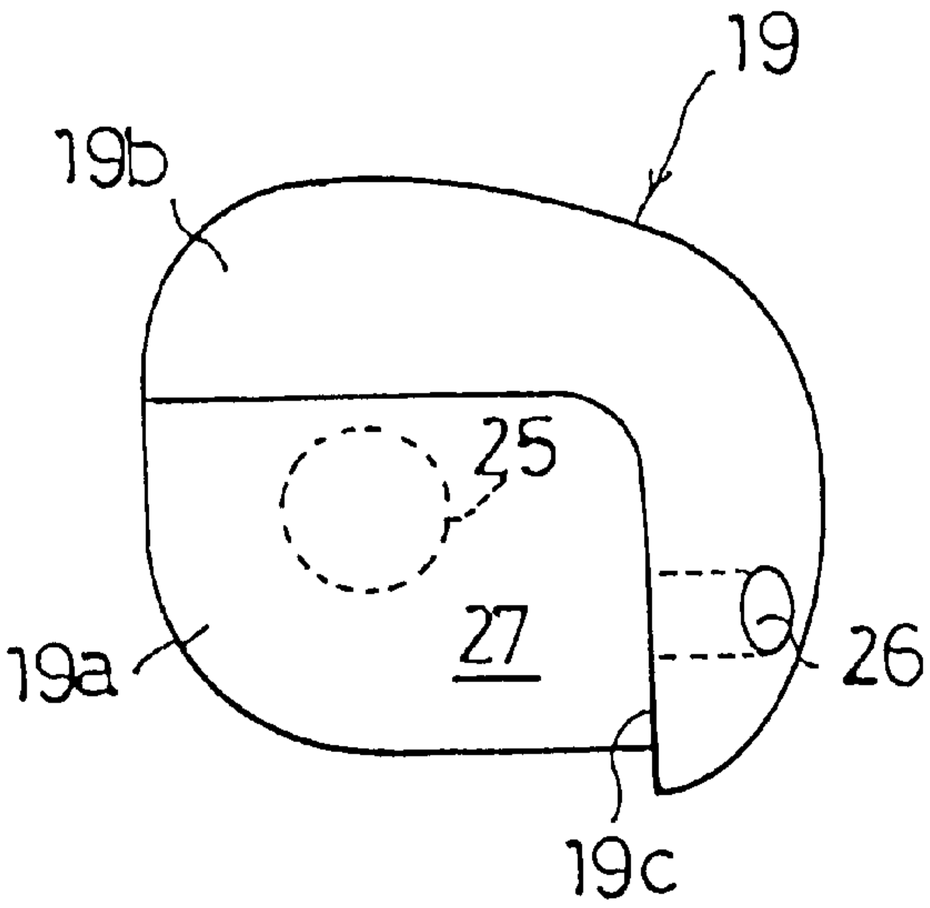
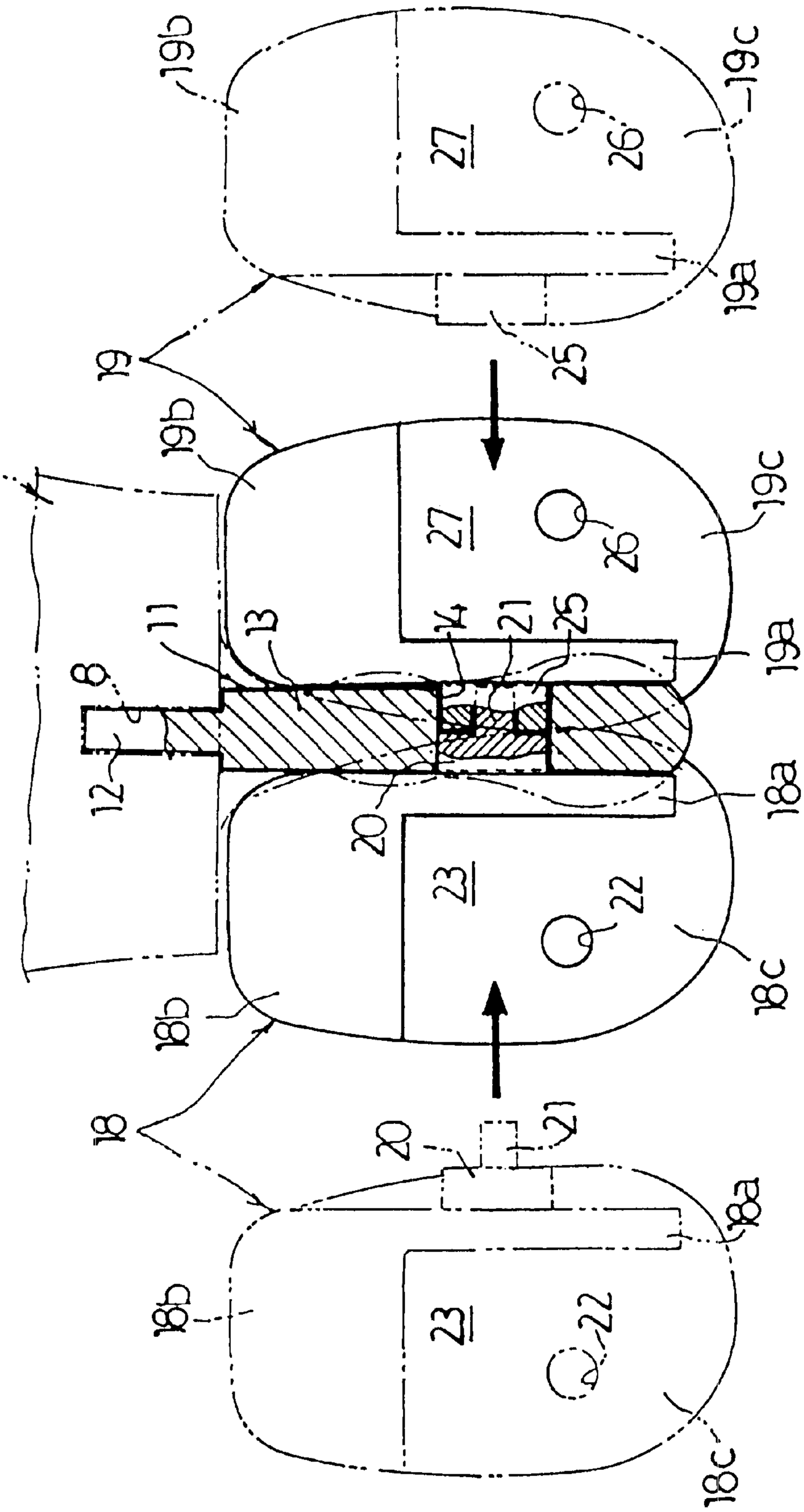


FIG. 11


19b
19c
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g
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19c
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18c
18b
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18c

FIG. 12

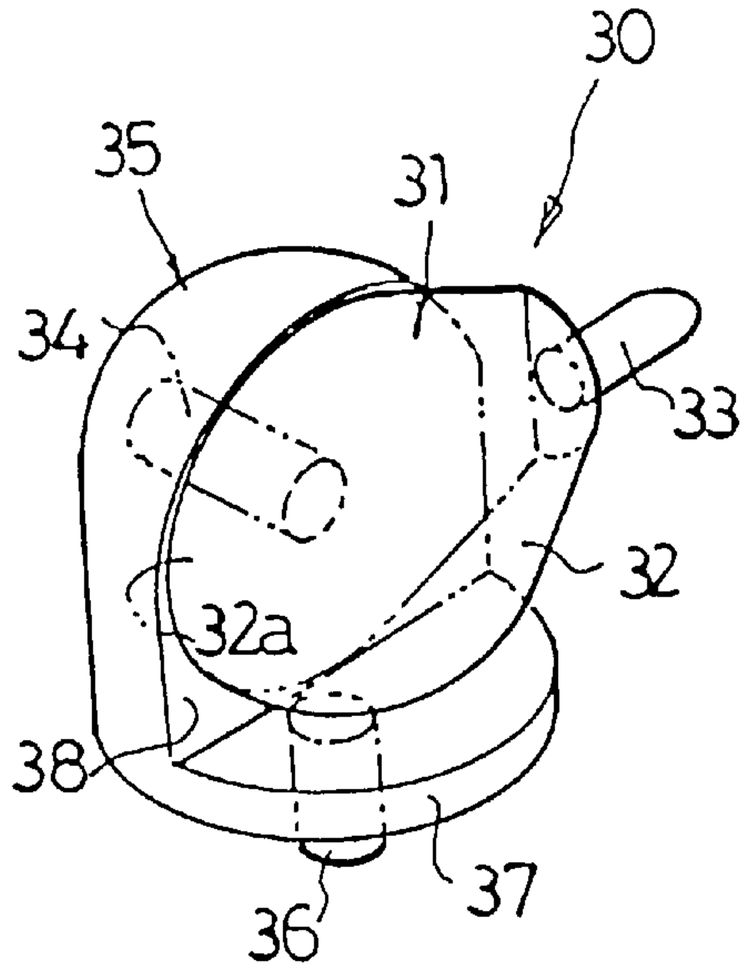
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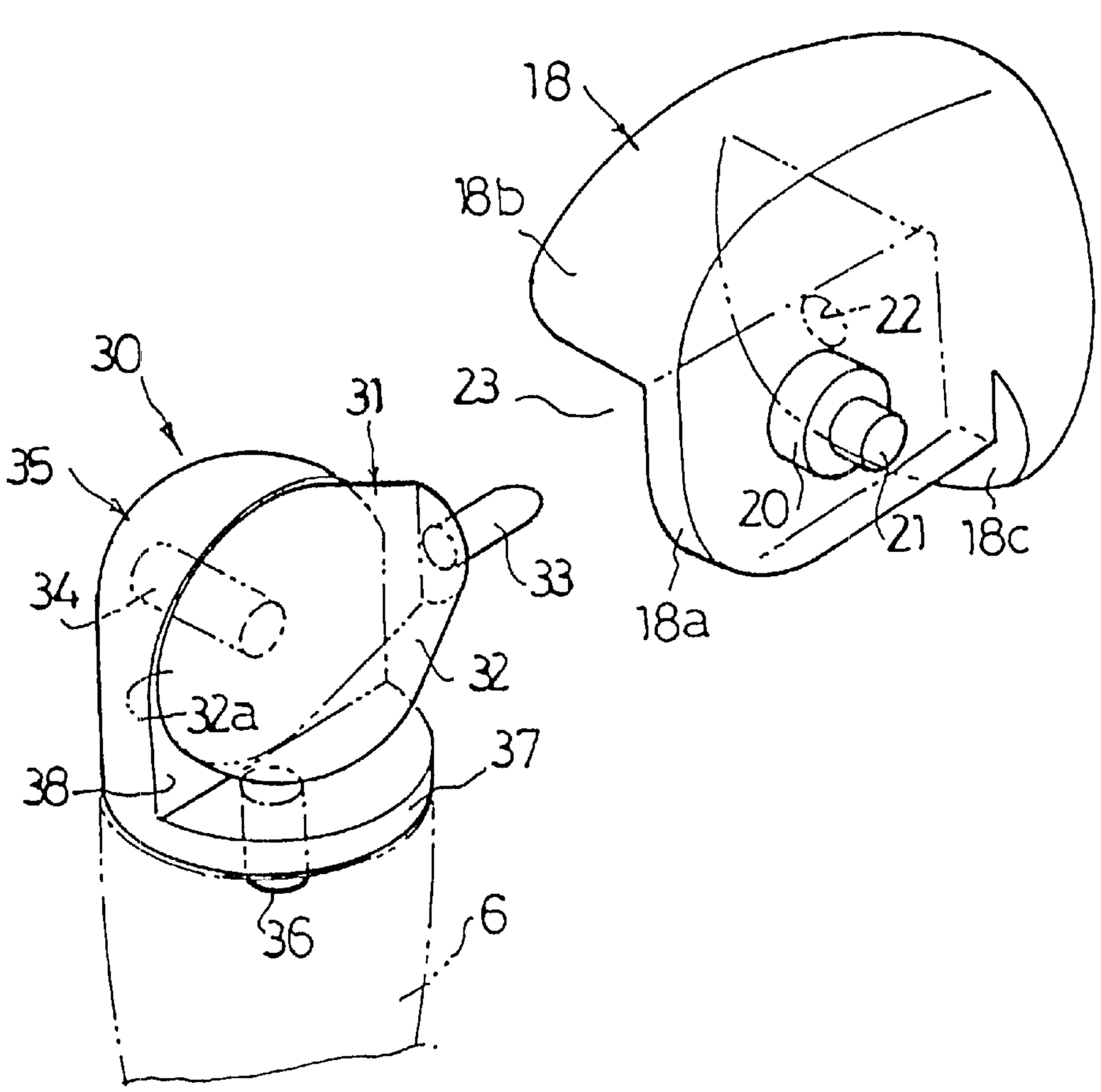
FIG. 13


18
18b
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18c
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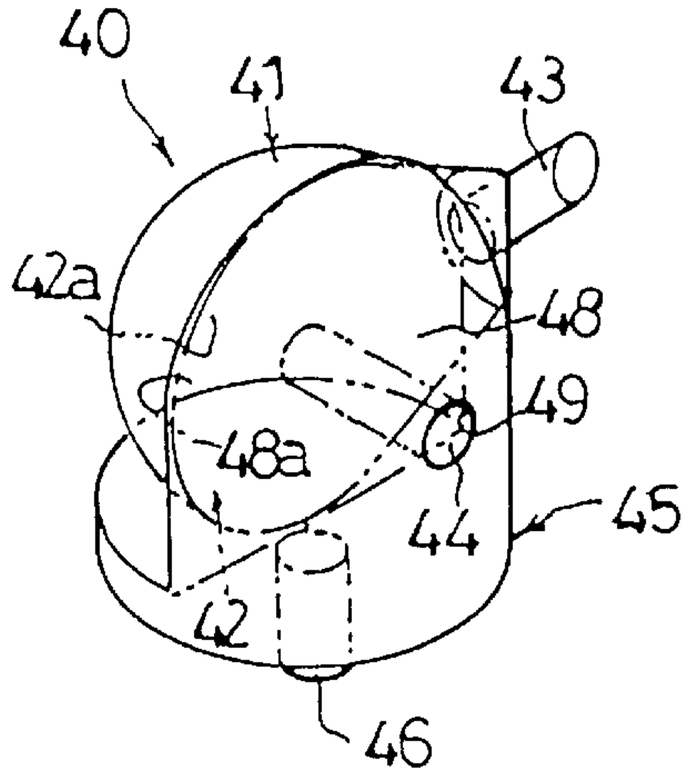
FIG. 14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42a
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FIG. 15

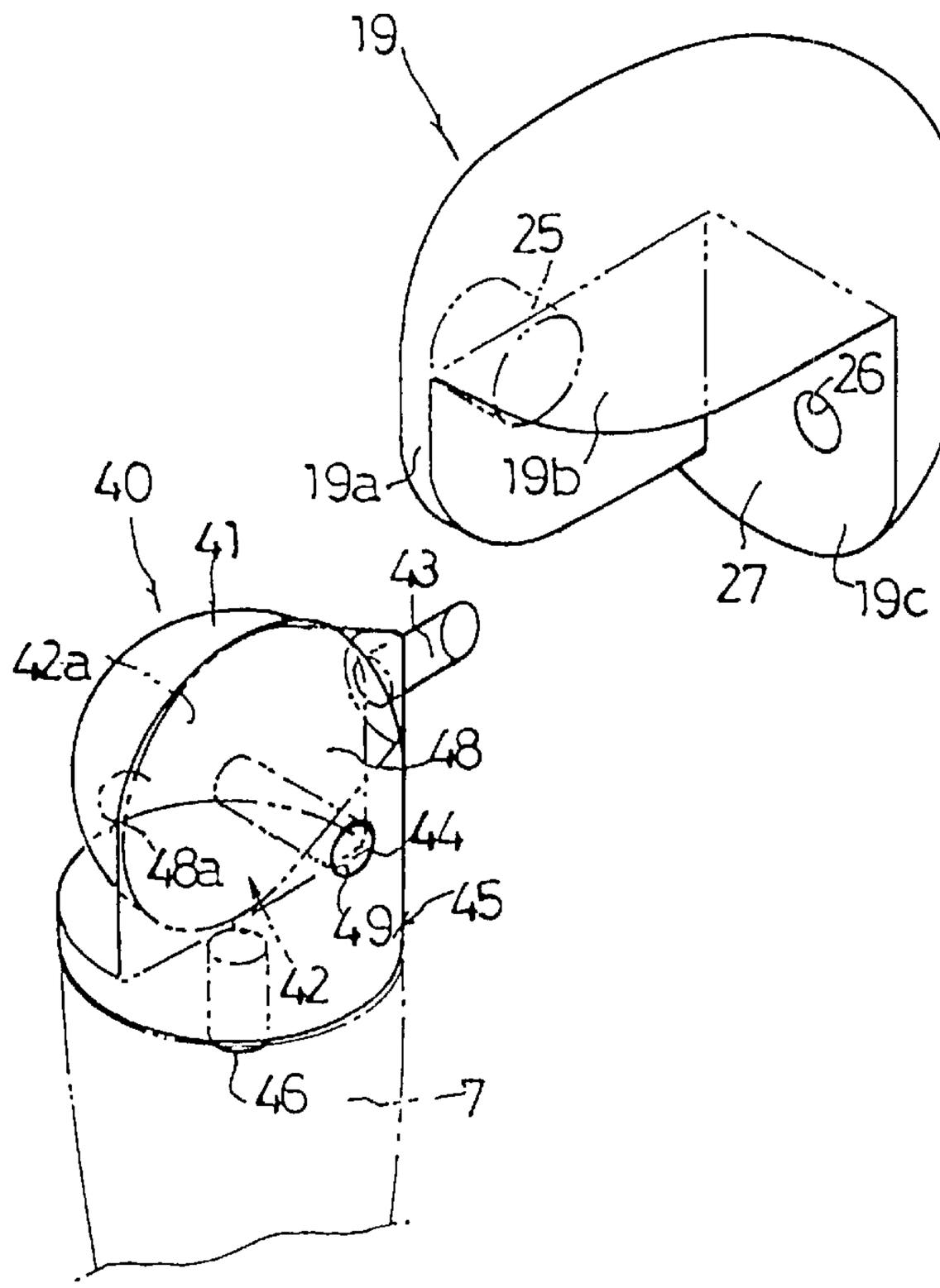
19
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FIG. 16

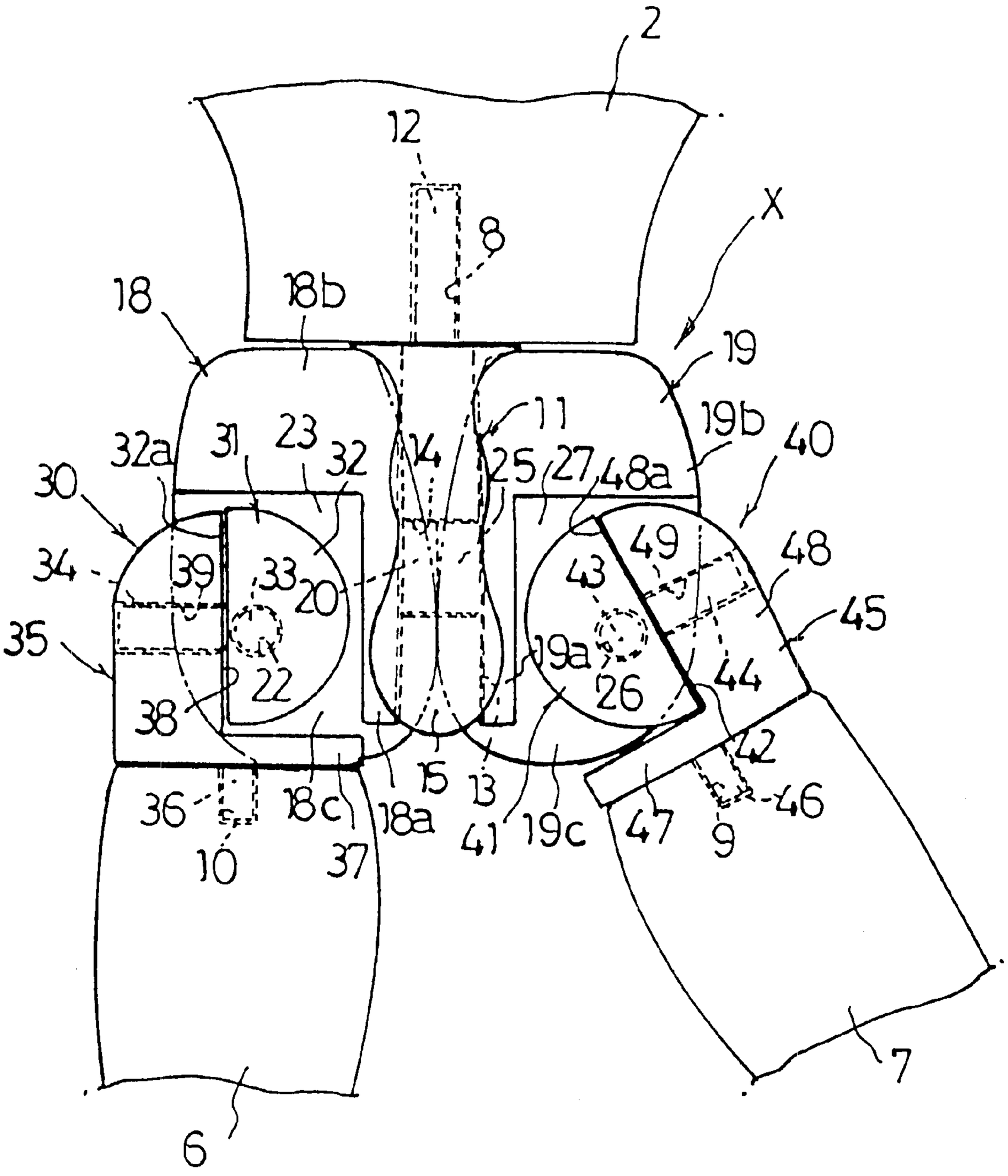
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FIG. 17

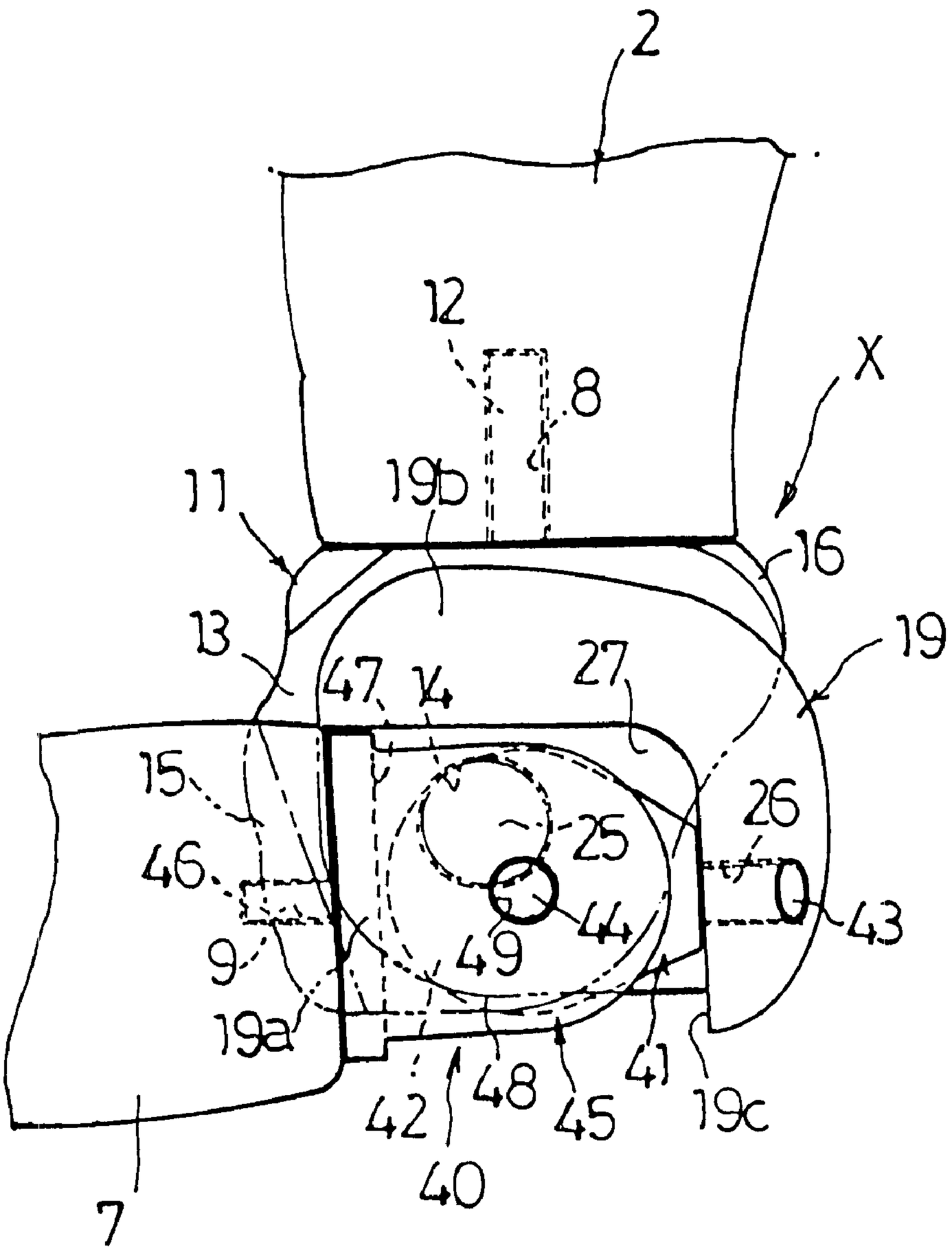
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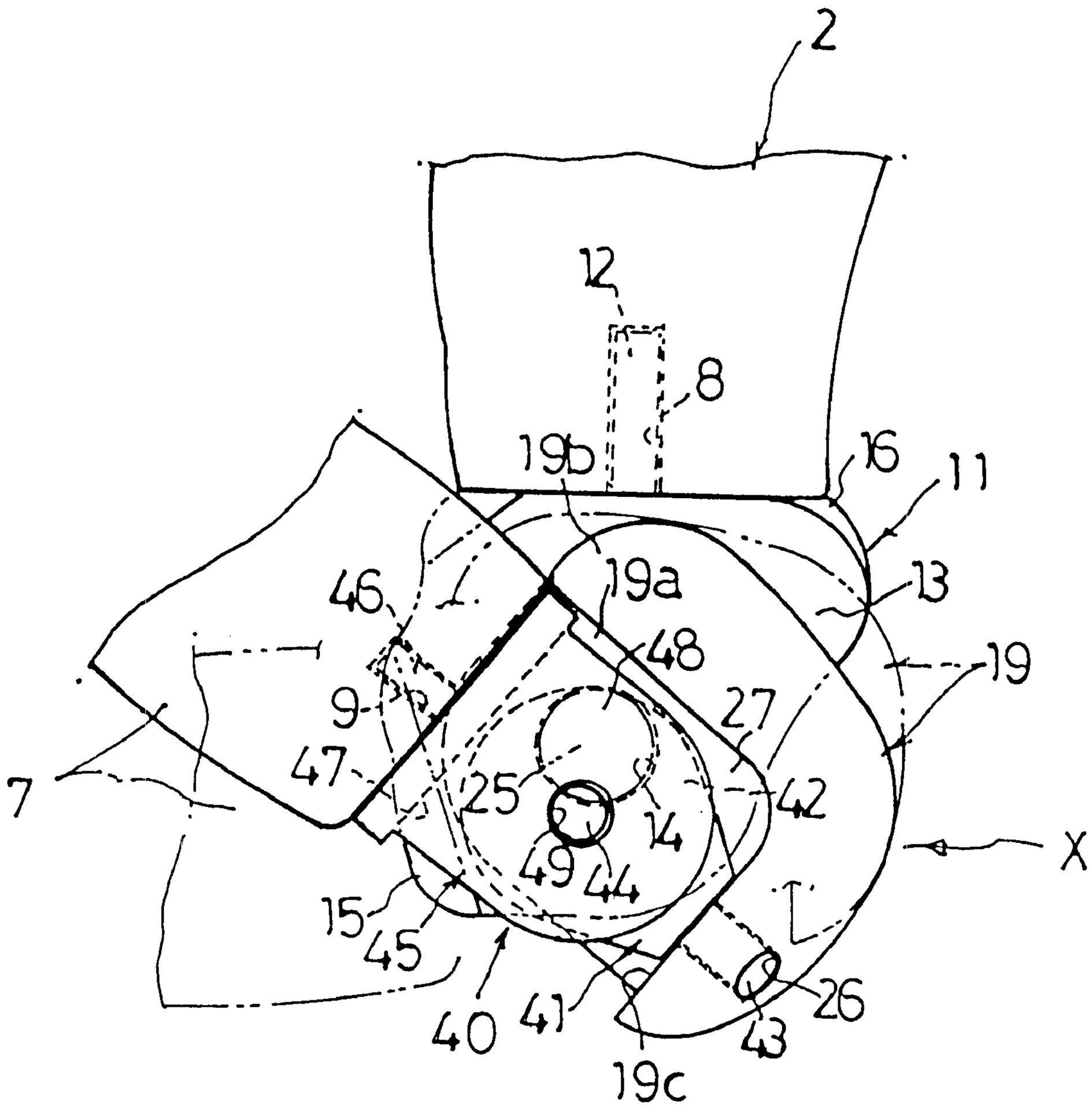
FIG. 18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19c

# DOLL MOVABLE STRUCTURE FOR LOIN AND GROIN

## BACKGROUND OF THE INVENTION

The present invention relates to a movable structure for loin and groin of toy figures, jointed dolls, and the like.

An example of a joint structure in relation to groin of toy figures, such as dolls or the like whose has right and left legs lifted in the horizontal and fore directions (it makes them to move) is described in Japanese Utility Model Examined Publication Hei 7-45273.

In such a structure described in the above-mentioned publication, basically, both ends of the protruded rods provided at a lower portion of a doll to a horizontal state is each provided spherical members, and a pair of separated legs includes respectively engaged depressions which engage with the spherical members. Therefore, the spherical members and depressions as a joint structure are joined suitably each other.

Therefore, the leg of the doll can be lifted horizontally and forwards through the fitted depression having cum mechanism in relative to the spheres of the rods respectively.

However, since the joint structure of the leg of the doll is very simple, it is impossible to make loin or groin of the doll to move in the same manner as human being. Therefore, when the leg is opened in the front-back direction and/or the left-right direction, the loin or groin portion of the doll does not allowed moving as natural movement of human being. In addition, because the sphere members of the protrusion rods are each engaged with the engaging depressions having cum mechanism, one of the legs has to be separated in two portions.

## SUMMARY OF THE INVENTION

In view of the foregoing, it is an object of the present invention to provide a movable structure for loin and groin of toy figures that allow loin and groin to lift in the same manner as human being naturally when the leg is opened in the front-back direction and/or the fore direction. It is another object of the present invention to provide a movable structure that can join a huckle bone member and loin member rationally. It is still another object of the present invention to provide a movable structure that can be lifted the leg to a V-shaped state with rotating the huckle bone member when the leg of toy figures is lifted in the fore direction. It is a further object of the present invention to provide a movable structure that can control movement of the leg of toy figures within a range of movement in the same manner as human being.

A movable structure for loin and groin of toy figures is composed of a coxa member **11** as a partition wall attached at a lower portion of a body **2** of a movable jointed doll **1**; a pair of right and left huckle bone members **18, 19** provided pivotably with the coxa member **11**; a pair of right and left groin members **30, 40** installed into installed spaces **23, 27** respectively formed at each of the huckle bone members **18, 19**; the groin members **30, 40** having protruded fitted portions **33, 43** which insert into depressed fitted portions **22, 26** formed at gluteu maximus corresponding portion of the huckle bone members **18, 19** respectively; and each of the groin members **30, 40** further composed of first joint segments **31, 41** rotate respectively in relation to each of the huckle bone members **18, 19** such that right and left leg members **6, 7** move in the horizontal direction respectively and second joint segments **35, 45** combine integrally with the first joint segments **31, 41** in a face-contact state respectively in relation to each of the first joint segments **31, 41** such that the leg members **6, 7** are lifted in the fore direction respectively.



In the above-mentioned structure, the huckle bone member **18** further composed of a longitudinal slider wall **18***a,* an iliac muscle corresponding portion **18***b,* and a gluteu maximus corresponding portion **18***c.* The iliac muscle corresponding portion **18***b* is formed at an upper portion of the longitudinal slider wall **18***a* such that the iliac muscle corresponding portion **18***b* projects outwardly. The gluteu maximus corresponding portion **18***c* is provided consecutively with a lower portion to an angle state from the iliac muscle corresponding portion **18***b* to an angle state. Moreover, the second segment **35** of the groin portion **30** includes a base **37** and a vertical bearing portion **38**. The base **37** touches to an edge portion of the iliac muscle corresponding portion **18***b* when the leg **6** is lifted in the fore direction to a horizontal state. The vertical bearing portion **38** extends upwardly from the outer surface of the base **37** and is closely related with the first joint segment **31**.

Further, the coxa member **11** includes a coxa portion **13** composed of a control portion **15** for a huckle bone member and a stopper portion **16** for a huckle bone member. The bordering-shaped control portion **15** is formed at an edge portion of the front part of the coxa portion **13** and in an inclined-shape, the control portion **15** projecting in the right and left directions symmetrically. The stopper portion **16** for a huckle bone member is formed at an upper edge portion of a back part of coxa portion **13** and projects with a slight curve in the right and left directions symmetrically.

Moreover, the coxa member **11** is provided pivotably to the body **2**, having a cylindrical insert axle **12** inserted into a vertical hole **8** formed at the body **2**.

In addition, another huckle bone member **18** includes longitudinal slider wall **18***a* slides in contact with a side wall of the coxa portion **13** of the coxa member **11**. The longitudinal slider wall **18***a* has a large diameter fitted axle portion **20** and a small diameter short axle **21**. The axle portion **20** engages into the center hole **14** of the coxa portion **13**. The short axle **21** is formed so as to protrude at a top end portion of the axle portion **20** and inserted into an fitted sleeve **25** formed so as to protrude at the longitudinal slider wall **19***a* of another huckle bone member **19**.

## BRIEF DESCRIPTION OF THE DRAWINGS

Each of drawings referring to FIGS. **1** to **18** shows an explanatory view respectively illustrating an embodiment of the present invention.

FIG. **1***a* is a front view of a movable jointed doll, and

FIG. **1***b* is an expanded view showing details of a main part of the present invention shown in FIG. **1***a;*

FIG. **2***a* is a back view based on FIG. **1,** and

FIG. **2***b* is an expanded view showing details of a main part of the present invention shown in FIG. **2***a;*

FIG. **3***a* is a right side view based on FIG. **1,** and an expanded view showing details of a main part of the present invention shown in FIG. **3***b*;

FIG. **4** is an exploded perspective view showing a main part of the present invention;

FIG. **5** is a front view of a coxa member;

FIG. **6** is a right side view of a coxa member;

FIG. **7** is a front view of a left huckle bone member;

FIG. **8** is a left side view of a left huckle bone member;

FIG. **9** is a front view of a right huckle bone member;

FIG. **10** is a right side view of a right huckle bone member;

FIG. **11** is a schematic explanatory view in case that right and left huckle bone member are installed with a coxa member;

FIG. **12** is a schematic explanatory view of a left groin member;

FIG. **13** is an explanatory view showing the way in which a left groin member and left huckle bone member are combined;

FIG. **14** is a schematic explanatory view of a right groin member;

FIG. **15** is an explanatory view showing the way in which a right groin member and right huckle bone member are combined;

FIG. **16** is an explanatory view showing an example that both legs open in a horizontal direction;

FIG. **17** is an explanatory view showing the way in which are lifted substantially up to a horizontal state in the fore direction; and

FIG . **18** is an explanatory view the way in which the legs is moved up to a V-shaped state.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

A movable structure for loin and groin of a movable jointed doll of the present invention is described in more detail referring to FIGS. **1** to **18** of the accompanying drawings. At first, FIG. **1** shows a front view of a movable jointed doll X made of hard synthetic resin, FIG. **2** shows a back view based on FIG. **1**, and FIG. **3** shows a right side view based on FIG. **1**. FIGS. **1** to **3** show one of examples showing the embodiment of the present invention respectively. Particularly, the main part of the present invention is pull out by an arrow and shown as expanded drawings respectively. The movable jointed doll **1** is provided pivotably a head portion **3** including a neck portion and right and left arms **4**, **5** as a matter of course. Also a pair of leg members **6**, **7** are each supported pivotably through a movable structure for loin and groin as the main part of the present invention. Then, the drawing for a joint structure such as elbows of the arms **4**, **5** and knees of the leg members **6**, **7** are not shown thererin because their structure has nothing to do with the structure of the present invention.

Then, FIG. **4** is an exploded view showing each member composing the main part of the present invention. Also, FIGS. **5** to **15** shows each of explanatory views showing a figure or a combination state for each of members which is shown in FIG. **4**.

Each of members comprising the main part of the present invention is described more detail referring to drawings.

Numeral **11** indicates a coxa member forcibly which inserts into a vertical hole **8** formed at a central portion on a horizontal lower surface of aforesaid body **2**. FIG. **5** is a front view of the coxa member **11**. FIG. **6** is a right side view of the coxa member **11**. Now, an appearance of the coxa member **11** is described referring to the drawings. The coxa member **11** is composed of an insert axle **12** formed in a shape of a cylinder and a coxa portion **13** formed in a shape of a partition wall. The insert axle **12** is pressed into the vertical hole **8** of the body. The coxa portion **13** is formed integrally at a lower end of the inserted axle **12**. A central hole **14** is formed at a central portion of the coxa portion **13** and crosses to the insert axle **12**.



The bordering-shaped control portion **15** is provided at an edge portion of the front part of the coxa portion **13** and formed in an inclined shape, the control portion **15** projecting to a right and left directions symmetrically. The stopper portion **16** for a huckle bone member is provided at an upper edge portion of a back part of coxa portion **13** and projects with a slight curve in the right and left directions symmetrically.

Numerals **18** and **19** as shown in FIG. **11** indicate a pair of huckle bone member installed with the right and left coxa members **11** respectively such that they can rotate pivotably to a predetermined angle. In this embodiment, as shown in FIG. **11**, numeral **18** indicates a left huckle bone member, the numeral **19** is a right huckle bone member. FIGS. **7** and **8** show front and left side views illustrating the left huckle bone member **18**. Then, the left bone member **18** is described referring to these drawings. Numeral **18***a* is a longitudinal slider wall slides in contact along a left side wall of the coxa portion **13** of the coxa member **11**, the slider wall **18***a* having an large diameter fitted axle portion **20** formed with projection at a central portion thereof The axle **20** is fitted and inserted onto the central hole **14** of the coxa portion **13**. Further, a small diameter short axle **21** is formed at a top end portion of the fitted axle **20** as an engaging portion that protrudes from the central hole **14** a little.

Numeral **18***b* indicates a thick iliac muscle corresponding portion formed at an upper portion of the longitudinal slider wall **18***a* such that the iliac muscle corresponding portion **18***b* projects outwardly (left side). An upper wall surface of the iliac muscle corresponding portion **18***b* is formed as an expanded shape, and an lower inner wall of a bottom surface thereof is formed to a horizontal state. Additionally, numeral **18***c* indicates a gluteu maximus corresponding portion which formed at a back portion of the longitudinal slider wall **18***a* such that the gluteu maximus corresponding portion **18***c* projects outwardly (left side), the gluteu maximus corresponding portion **18***c* forming consecutively below the iliac muscle corresponding portion. The outer wall surface of the gluteu maximus corresponding portion **18***c* is formed in an expanded shape in the same manner as the iliac muscle corresponding portion **18***b,* and an inner wall surface of the gluteu maximus corresponding portion **18***c* is formed in a vertical state. Moreover, an axle hole **22** defining a through hole as a depressed engaging portion is formed at a central portion of the gluteu maximus corresponding portion in the vertical direction. Accordingly, iliac muscle corresponding portion **18***b* and the gluteu maximus corresponding portion **18***c* of the left huckle bone member **18** are formed in an angle-shape as a whole. Moreover, a portion corresponding to pubic muscle as it were acts as an installed space **23** for the groin member as will be described later.

FIGS. **9** and **10** show a front and right side views for the right huckle bone member **19**. Then the right huckle bone member is described referring to the drawings. Numeral **19***a* indicates a longitudinal slider wall that slides in contact along a right side wall of the coxa portion **13** of the coxa member **11**. A fitted sleeve **25** as a non-fitted portion is formed so as to protrude at a central portion of the longitudinal slider wall **19***a,* the sleeve being fitted and inserted onto the central hole **14** defining a through hole of the coxa portion **13** and being impacted the short axle **21** of the left huckle bone member **18** therein.

Numeral **19***b* indicates a thick iliac muscle corresponding portion formed at an upper portion of the longitudinal slider wall **19***a* such that iliac muscle corresponding portion **19***b* projects outwardly (right side). An upper wall surface of the iliac muscle corresponding portion **19***b* is formed in an

expanded shape, and an inner wall surfaced thereof is formed to a horizontal state. Additionally, numeral **19***c* indicates a gluteu maximus corresponding portion formed at a back part of the longitudinal slider wall **19***a* such that the gluteu maximus corresponding portion **19***c* projects outwards (right side), the gluteu maximus corresponding portion **19***c* forming consecutively below the iliac muscle corresponding portion **19***b*. The outer wall surface of the gluteu maximus corresponding portion **19***c* is formed in an expanded shape in common with the iliac muscle corresponding portion **19***b*, and an inner wall surface of the gluteu maximus corresponding portion **19***c* is formed to a vertical state. Moreover, an axle hole **26** defining a through hole as an engaging depression is formed at a central portion of the gluteu maximus corresponding portion **19***c* in the vertical direction. Accordingly, the iliac muscle corresponding portion **19***b* and gluteu maximus corresponding portion **19***c* of the right huckle bone member **19** are also formed symmetrically with comparison to the left huckle bone member. Moreover, the portion corresponding to pubic muscle as it were act as an installed space **27** for a groin member as will be described later.

The groin members **30**, **40** are described referring to FIG. **4** and FIGS. **12** to **15**. The groin members **30**, **40** are provided pivotably into the installed spaces **23**, **27** of the right and left huckle bone members **18**, **19** respectively. Now, the groin members **30**, **40** of the present invention are formed symmetrically. Therefore, the structure of groin member **40** is described at details below, and another groin member **30** will be described simply as will be described later.

Numeral **41** indicates a first joint segment that is fixed pivotably to the right huckle bone member **19**. The first joint segment **41** is composed of a connected portion **42** formed in a hemisphere shape (shape like a half of a pear), a horizontal axle **43** as a protruded engaging portion and a projected axle **44**. The horizontal axle **43** is provided at a back end portion of the connected portion **42** and extends in the horizontal direction, the axle **43** matching and fitting to the axle hole **26** of the right huckle bone member **19**. The projected axle **44** is formed on a vertical joint surface **42***a* of the connect portion **42** so as to protrude such that the projected axle crosses to the horizontal axle **43**.

Moreover, numeral **45** indicates a second joint segment is fixed pivotably to an upper end portion of the leg member **7**. The second joint segment **45** is composed of a base **47** formed in a shape of a circle, a vertical bearing portion **48** and an engaged hole **49**. The base **47** includes a vertical axle **46** impacted into the vertical fitted hole **9** formed at an upper end portion of the leg member **7**. The vertical bearing portion **48** extends from an outer surface (right side) of the base **47** upwardly and formed in a shape of a fingertip. The hole **49** defining a through hole is formed at a portion adjacent upper portion or a central portion of the bearing portion **48** and receives to impact the projected axle **44** of the first joint segment **41** therein.

The outer wall surface provided the projected axle **44** of the connected portion **42** of the first joint segment defines a vertical joint surface **42***a*. Further, an inner wall of the vertical bearing portion **48** of the second joint segment **45** which joints with the vertical joint surface **42***a* defines a longitudinal slider surface **48***a*. Therefore, when the projected axle **44** of the first joint segment inserts into the hole **49** of the second joint segment **45**, the vertical joint surface **42***a* of the first segment **41** and longitudinal slider surface **48***a* of the second joint segment **45** joint perfectly and combine integrally each other.

Further, another groin member **30** is described simply as follows:

Numeral **31** indicates a first joint segment attached pivotably to the left huckle bone member. Numeral **32** indicates a joint portion of the first joint segment. Numeral **32***a* indicates a joint surface. Numeral **33** indicates a horizontal axle as a protruded engaging portion. Moreover, numeral **34** indicates a projected axle. In addition, numeral **35** indicates a second joint segment attached pivotably to an upper end portion of the leg **6**, numeral **38** indicates a vertical bearing, portion, and numeral **39** indicates a fitted hole.

Based on the structure already mentioned, the assembling of members is as follows:

At first, coxa member **11** is provided with the body **2**. In this case, the assembling will be supported the coxa member **11** from both sides by the thumb and forefinger thereof impacted insert axle **12** into the vertical hole **8** of the body **2**. If the coxa member **11** is combined with the body **2** through the insert axle **12**, it can rotate pivotably.

Next, the groin members **30**, **40** corresponding to each of the right and left huckle bone members **18**, **19** are installed with the huckle bone members **18**, **19** respectively. In this embodiment, referring to FIG. **4**, the left groin member **30** is installed into the installed space **23** of the left huckle bone member **18** through the first joint segment **31**. Moreover, the right groin member **40** is installed into the installed space **27** of the right huckle bone member **19** through the first joint segment **41**. In case of such condition, the first joint segments **31**, **41** are attached movably to the huckle bone members **18**, **19** respectively through the horizontal axles **33**, **43** impacted into the axle holes **22**, **26** of the huckle bone members **18**, **19** such that the first joint segments **31**, **41** move in the horizontal direction from the predetermined vertical position (for example, direction lifted the leg **7** in the right direction as shown in FIG. **16**). Accordingly, when the first joint segments **31**, **41** are lifted in the horizontal direction from the predetermined vertical position respectively, the second joint segments **35**, **45**, as already mentioned, are respectively supported pivotably by the first joint segments **31**, **41** in relation that the second joint segments **35**, **45** are closely related with the first joint segments **31**, **41** and contact each other, so that the second joint segments **35**, **45** move in the horizontal direction respectively by movement of the first joint segments **31**, **41**.

Further, the left huckle bone member **18** installed the groin member **30** is provided with the left side wall of the longitudinal slider wall **18***a* of the coxa member **11**. At the same time, when the axle **20** of the left huckle bone member **18** engages with the center hole **14** of the coxa portion **13**, the small diameter short axle **21** projects from the surface of the right side wall of the longitudinal slider wall **18***a* a little. Accordingly, the right huckle bone member **19** installed the groin member **40** beforehand is provided with the left and right side walls of the longitudinal slider wall **18***a* of the coxa member **11**, and the small diameter short axle **21** is impacted into the sleeve **25**. Therefore, the left and right huckle bone members **18**, **19** are connected integrally. The above-described huckle bone members **18**, **19** can move freely in the fore direction while they slide in contact along the longitudinal slider wall **18***a* (the direction to lift the leg **7** to the left side points to the direction to lift the leg in the fore direction, as shown in FIG. **7**).

Finally, the vertical axles **36**, **46** of the second joint segments **35**, **45** of the right and left groin members **30**, **40** are inserted respectively into the holes **10**, **9** of the corresponding leg members **6**, **7**.

Therefore, the movement of the leg members **6**, **7** of the movable jointed doll **1** is as follows:

When the leg member **7** opens in the horizontal direction as shown in FIG. **16**, for example, the groin member **40** will rotates through the first joint segment **41** to the right huckle bone member **19**. Additionally, when they are lifted in the fore direction as shown in FIGS. **17** and **18**, for example, the second joint segment **45** rotates up to a horizontal position substantially while it slides in contact along the first joint segment **41** into facing contact. Moreover, when the leg member **7** is lifted upwardly still more, the right huckle bone member **19** maintains a lifted-up state by the base **47** of the second joint segment **45**. Accordingly, the right huckle bone member **19** rotates as far as the movement allows stopping by the inclined control portion **15** of the coxa member **11**. Therefore, the leg members **6**, **7** of the movable jointed doll **1** rotate pivotably and upwardly such that its movement gives us a good impression on a great pliability.

Further, the right and left huckle bone members **18**, **10** of the movable jointed doll **1** rotate pivotably through the coxa member **11**.

In this case, since each of leg members **6**, **7** of the movable jointed doll **1** is controlled by each of the symmetrical corresponding stoppers **16** of the coxa member **11** to the right and left huckle bone members **18**, **10** respectively, the leg members **6**, **7** do not rotate in the back direction from the position in which they is provided at a predetermined place.

In the first embodiment, in case that right and left huckle bone members are installed pivotably with the coxa member **11**, the center hole **14** is not always formed at the coxa portion **13** of the coxa member **11**. For example, the assembly may be formed the engaging protrusion at the right and left sides at the coxa member **13**, the huckle bone members **18**, **19** having non-engaging depression engages with the engaged protrusions may be installed pivotably with the coxa member **11**. Also, in case that the groin members **30**, **40** are supported pivotably by the huckle bone members **18**, **19** through the first joint segments **31**, **41** respectively, the relation between the projected portions **33**, **44** and the depressed fitted portions **22**, **26** may be formed reversibly. Furthermore, in the relation between the coxa member **11** and the body **2**, the projected fitted portion **12** (inserting axle) and the depressed fitted portion (vertical hole) may invert, and the structure may be changed through a design change optionally. The preferred embodiments described herein are therefore illustrative and not restrictive, the scope of the invention being indicated by the appended claims and all variations which come within the meaning of the claims are intended to be embraced therein.

The advantages of the present invention are as follows:

(1) A movable structure for loin and groin of toy figures allows loin and groin portions to move in the same manner as human being naturally when the leg members of the doll are lifted in the front-back direction and/or the left-right direction respectively.

(2) Since a coxa member defining a partition wall is provided toward under the body, the huckle bone member and groin member can be jointed rationally.

(3) In a movable structure of the present invention described in claim **2**, when the leg members of a doll are each lifted up to the horizontal state in the fore direction, the leg members can be lifted up to a V-shaped state as the huckle bone member allows to rotate.

(4) In a movable structure of the present invention described in claim **3**, the range of rotation of the leg member can be controlled it's movement in the same manner as the range of rotation of the leg of human being.

What is claimed is:

**1**. A movable structure for loin and groin of toy figures, comprising:

a coxa member **(11)** formed as a partition wall and attached to a lower portion of a body **(2)** of a movable jointed doll **(1)**;

a pair of right and left huckle bone members **(18, 19)** installed pivotably with said coxa member **(11)**;

a pair of right and left groin members **(30, 40)** installed into installed spaces **(23, 27)** respectively formed at each of said huckle bone members **(18, 19)**; and

said groin members **(30, 40)** having protruded portions **(33, 43)** which insert into depressed portions **(22, 26)** provided at gluteu maximus corresponding portions of said huckle bone members **(18, 19)** respectively; said groin members **(30, 40)** including

first joint segments **(31, 41)** that rotate respectively in relation to each of said huckle bone members **(18, 19)** such that right and left leg members **(6, 7)** move in a horizontal direction respectively, and

second joint segments **(35, 45)** for connecting leg members provided with said first joint segments **(31, 41)** so as to closely relate and contact therewith and combined integrally through projected axles **(34, 44)** respectively, said second joint segments **(35, 45)** rotate in relation to said first joint segments **(31, 41)** such that said leg members **(6, 7)** are pushed in a fore direction, respectively.

**2**. A movable structure for loin and groin of toy figures according to claim **1** wherein:

said huckle bone member **(18)** including a longitudinal slider wall **(18*a*)**, an iliac muscle corresponding portion **(18*b*)** formed at an upper portion of the longitudinal slider wall **(18*a*)** such that said iliac muscle corresponding portion **(18*b*)** projects outwardly, and a gluteu maximus corresponding portion **(18*c*)** which is provided consecutively with a lower portion to an angle state toward said iliac muscle corresponding portion **(18*b*)**; and

said second segment **(35)** of said groin member **(30)** including a base portion **(37)** touches intimately to an edge portion of said iliac muscle corresponding portion **(18*b*)** when said leg member **(6)** is moved up to a horizontal state in a fore direction and a vertical bearing portion **(38)** extends upwardly from an outer surface of said base portion **(37)** and is closely related with said first joint segment **(31)** and contacts each other.

**3**. A movable structure for loin and groin of toy figures according to claim **1** wherein:

said coxa member **(11)** includes a coxa portion **(13)** comprising a control portion **(15)** for said huckle bone member having an edged shape that projects in right and left directions symmetrically, said control portion being formed at an edge portion of a front part of said coxa portion to an inclination state, and

a stopper **(16)** for said huckle bone member formed at an upper edge portion of a back part of said coxa member, said stopper protruding symmetrically in right and left directions at a slight curve.

**4**. A movable structure for loin and groin of toy figures according to claim **1**, wherein said coxa member **(11)** is provided pivotably with said body **2**, said coxa member **(11)** having a cylindrical insert axle **(12)** inserted into a hole **(8)** defining a vertical state of said body **(2)**.

**5**. A movable structure for loin and groin of toy figures according to claim **1**, wherein one of said huckle bone members **(18)** including

a longitudinal slider wall (**18***a*) which slides in contact along one of the side walls of said coxa portion (**13**) of said coxa member **11**, and

said longitudinal slider wall (**18***a*) including a large diameter fitted axle portion (**20**) fits onto a center hole (**14**) of said coxa portion (**13**) and a small diameter short



axle (**21**) formed so as to protrude at a top portion thereof and inserted into a fitted sleeve (**25**) formed so as to protrude at a longitudinal slider wall (**19***a*) of another huckle bone member (**19**).

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